4.9 CULTURAL RESOURCES

This section describes the existing archaeological and historical resources within the proposed Project area and identifies potential impacts on these resources during all phases of the Project. Key cultural resource issues evaluated in this section include the presence of archaeological and historical resources in the onshore and offshore Project areas and consideration of Native American issues. This section also identifies measures to avoid or reduce potential impacts and evaluates the effects of proposed alternatives on cultural resources. Commenters during the public scoping and review periods for the October 2004 Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) requested information on the Alaska Airlines Flight 261 crash site, additional onshore cultural resource surveys, consultations with Native American sources, and reviews of local cultural resource registries. Commenters also requested clarification of how cultural significance and cultural impacts are determined and mitigation measures that occur when cultural resources are encountered.

Documents that were reviewed for the cultural resources analysis included reports prepared for BHP Billiton LNG International Inc. (BHPB) by Entrix (2004, 2005) and an underwater cultural resources survey report prepared by Fugro Pelagos, Inc. (Hunter 2004). An onshore pedestrian cultural resources survey was conducted by the Project review team in June 2005. Personnel participating in the cultural resources studies meet the qualifications noted in the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation.

4.9.1 Environmental Setting

4.9.1.1 Cultural Resource Definitions

As a class of resources considered in planning for and assessing impact from major developments, cultural resources may include prehistoric and historic archaeological sites; artifacts of aboriginal, Spanish, Mexican, or American origin; or any other physical evidence associated with human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources may be of Federal, State, or local significance.

To be evaluated as a significant cultural resource at the Federal and State levels, a resource must retain integrity (the degree of preservation of each class of cultural materials present in the resource) and satisfy one of the following conditions: be associated with a nationally, regionally, or locally important event; be associated with a nationally, regionally, or locally important person; be a good example of a period or style or represent a work of a master craftsman; or have potential to provide data important for addressing major research questions; and, in most instances, be older than 50 years of age. Local significance criteria generally follow State and Federal criteria with emphasis on local importance. Resources that meet State or Federal criteria are eligible for listing on the California Register of Historical Resources (California Register) or National Register of Historic Places (National Register), or both.

Under California law, an archaeological resource that is not eligible for listing on the California Register may still be considered a "unique archaeological resource." A unique archaeological resource is defined in § 21083.2 of the State Public Resources Code as "an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria: contains information needed to answer important research questions and that there is a demonstrable public interest in that information; has a special and particular quality such as oldest of its type or best available example of its type; or is directly associated with a scientifically recognized important prehistoric or historic event or person."

Archaeological resources in the Project area are associated with either Native American or Euro-American occupation of the area. The most frequently encountered prehistoric and early historic Native American archaeological sites are village settlements with residential areas and sometimes cemeteries; temporary camps where food and raw materials were collected; smaller, more briefly occupied sites where tools were manufactured or repaired; and special-use areas such as caves, rock shelters, and sites of rock art. Euro-American sites may include structural foundations or features such as privies, corrals, and trash dumps.

Cultural resource impacts also include impacts on Native American values. A significant impact on Native American values consists of any adverse effect on a prehistoric or historic archaeological site or resource of ethnic/cultural significance. Contemporary Native American resources or ethnographic resources may include archaeological resources, rock art, and prominent topographical areas, features, habitats, plants, animals, and minerals that contemporary Native Americans value and consider essential for the persistence of their traditional values.

Archaeological sites, artifacts, and historical resources occur both onshore and offshore and, by their nature, are non-renewable resources.

4.9.1.2 History

Prehistory

Ventura County, Oxnard

The first evidence of human occupation appears circa 9,000 years before the present (B.P.), but the prehistoric record generally begins 1,000 years later. Humans may have occupied the region earlier than 9,000 B.P., but no evidence of human presence during that period has been identified in Ventura County to date. The prehistory of the Ventura County region is divided into three periods: Early (8,000 to 3,350 B.P.), Middle (3,350 to 800 B.P.), and Late (800 to 150 B.P.).

Remains from the Early Period generally include grinding implements and large flake and core tools (Macko et al. 1985; Allen 1982; Leonard 1971), and Early Period sites appear to represent remains of residential base camps usually located on hilltops or knolls. Middle Period artifacts typically include more diversified and advanced tools as

well as arrowheads and shell ornaments. Villages of this period were more permanently occupied and some satellite sites became differentiated in size and purpose. Trade between villages is evidenced by the presence of trade materials such as serpentine, steatite, fused shale, and obsidian in village sites. More mortuary data from this period exist than for the Early Period. An increase in the importance of ocean resources and in the construction and use of boats has been documented.

The Late Period is marked by a dramatic increase in population and the emergence of a culture ancestral to the Chumash culture. The historical record from this period shows hunting and fishing tools, pottery vessels, trade items, ornaments, shell middens, and standardized shell bead money. Religion and mortuary rites increased in importance and complexity (Wessel Edberg, and Singer 1981). Villages ranged from 25 to 1,500 persons (Dames & Moore 1988).

The Chumash occupied the territory along the Pacific Coast from San Luis Obispo south to Malibu Canyon and inland as far as the western edge of the San Joaquin Valley, as well as the Channel Islands of San Miguel, Santa Rosa, Santa Cruz, and Anacapa. The Chumash culture attained a level of socio-cultural complexity and a population density comparable to many agricultural societies, as evidenced by the remains of the large villages (Pastron, Wells and Clewlow 1978).

The Ventureno Chumash were the southernmost Chumash group and occupied what is today the southwest corner of Los Angeles County and all but the northwest and easternmost parts of Ventura County. Marine technology featured planked wood boats, harpoons, fishnets, and shell and bone fishhooks (Heizer 1978). Chumash manufacture of wooden implements, basketry, cordage, and shell and bone ornaments has been well documented (Dames & Moore 1988). Food processing items included mortars and pestles, wood and stone bowls, baskets, and steatite griddles. Rock art sites occur throughout Chumash territory.

The Chumash were the first major California Indian group to be encountered by Europeans; Cabrillo met them in 1542 near present-day Ventura.

The Chumash were rapidly acculturated/encultured into the Spanish mission system and the socio-religious bases of the missionaries, who did not recognize Chumash culture as worthy of preservation.

Santa Clarita/Newhall

Native American groups known as the Alliklik and Tataviam are known to have used the upper Santa Clara River Valley and traded extensively with the Ventureno and other Chumash and the eastern Serrano and Mojave groups. The Tataviam lived primarily on the upper reaches of the Santa Clara River drainage east of Piru Creek, although their territory extended over the Sawmill Mountains to the north to include at least the southwestern fringes of the Antelope Valley. Tataviam territory was bounded on the west by various Chumash groups. The core of the Tataviam region is the south-facing slopes of the Liebre and Sawmill mountains.

The upper Santa Clara River and Antelope Valley were inhabited as early as 8,000 to 3,000 B.P. Associated artifacts from the Early Period include tools used in seed processing. Middle Period sites in the area are common and often contain ovens for roasting yucca. Transition from the Middle to Late Periods shows an increase in social differentiation and economic complexity.

On the basis of archaeological and ethno-historic information, Tataviam villages appear to have varied in size from large centers with as many as 200 people to small settlements containing 10 to 15 people.

Euro-American History

Ventura County/Oxnard

Spanish explorers first visited the region in the sixteenth century, beginning with the Cabrillo voyage and its 1542 landing near Point Mugu in Ventura County. Expeditions by land and sea continued through the mid-eighteenth century. European settlement in southern California initially focused on the establishment of missions, pueblos, and presidios between 1769 and 1821.

By the early 1800s, most of the Chumash population had come under the control of the Mission system. One quarter of all the California Franciscan missions were located in Chumash territory (Heizer 1978; Dames & Moore 1988). European colonization ended most of the traditional Chumash lifestyle.

During the rancho period, which lasted from 1822 to 1847, Mexico achieved its independence from Spain, and thousands of Mexican immigrants entered Southern California in order to take advantage of new land grants designed to settle and develop the area. The missions were secularized in 1834 and former mission lands were granted and/or sold. The Project lies within the area that was formerly occupied by the Rancho Santa Clara del Norte and the Rancho la Colonia. This period was characterized by extensive cattle ranching with some dry farming.

After the end of the Mexican-American War in 1848, the U.S. gained control of California and many of the ranchos were divided. A steady influx of Americans into California ensued. Crops such as wheat and barley (and to a lesser extent olives and oranges) were grown and shipped by sea to other markets. Ranching also continued. Following a period of severe drought, several irrigation projects began in 1871 and agriculture became more intensive. By 1900, Point Hueneme was the largest grain shipping port in Southern California (Macfarlane 1995).

A real estate boom followed on the heels of the Southern Pacific Railroad's arrival in Ventura in 1887 (Dames & Moore 1988). Montalvo, Somis, Simi, Moorpark, Oxnard, and Camarillo were all established between 1887 and 1900 (Robinson 1956). During the 1890s, Ventura was known as the oil county of California and achieved an even greater importance in the 1920s with discoveries of oil near the City of Ventura (Hoover et al. 1966). Several productive oil fields currently remain in operation in the Oxnard Plain (California Department of Oil and Gas 1974).

The City of Oxnard was founded in 1898. From 1913 to 1945, there was extensive regional development and increased diversity in industries, particularly petroleum, entertainment, aircraft, automobile, and agriculture.

Santa Clarita/Newhall

Spanish explorers, missionaries, and settlers began arriving in the late eighteenth century, and in 1797 the Mission San Fernando Rey de Espana was established, which included much of the Santa Clarita Valley. Following the breakup of the missions in 1834, the land was divided into private ranchos, including the Rancho San Francisco.

The discovery of gold in 1848 launched the California Gold Rush. The Santa Clarita Valley saw increasing urbanization, although it remained mostly agricultural with significant ranching. Oil production took off in the late 1800s and saw the construction of the State's first refinery in Newhall. Some of the oil and gold mini-boom towns survive today as historical sites such as Mentryville.

By 1810, virtually all of the Tataviam had been baptized at San Fernando Mission. By the time the Missions were secularized in 1834, most members of the Tataviam had married members of other groups, and by 1916 the Tataviam language was extinct (Heizer 1978).

Rail and irrigation brought intensive agriculture and more residents to the valley in the late 1800s and early 1900s. The failure of the St. Francis Dam in 1928 devastated the area, but urbanization and development rebounded and continued into the modern era. The valley also became popular as a Hollywood movie location during the early and mid-1900s. The City of Santa Clarita was incorporated in 1989, combining many existing communities, including Canyon Country, Newhall, Saugus, and the master-planned Valencia.

4.9.1.3 Literature Reviews, Surveys, and Interviews

Records searches were conducted for the proposed onshore and offshore pipeline routes and facilities areas to identify known, nearby cultural resources. These searches drew from databases of non-governmental organizations, as well as Federal, State, and local agencies including the National Register of Historic Places, the California Register of Historical Resources, the California Historical Resources Inventory, and the Ventura County Area Plan for the Coastal Zone.

Additionally, a geophysical survey of the offshore pipeline route and floating storage and regasification unit (FSRU) anchorage area was conducted in 2004 to identify potential cultural resources not yet included in existing databases. Interviews were also conducted with Ventura Chumash descendants.

Offshore

Records Search

Information on historic shipwrecks was compiled from several sources, including the California State Lands Commission (CSLC) and the Minerals Management Service (MMS), in the form of a computerized database of nautical cultural resources (U.S. Department of the Interior, Bureau of Land Management 1980; U.S. Department of the Interior, MMS 1987). Additional shipwreck locations were identified based on historical information for the Project area obtained from the Ventura County Historical Society; National Ocean Survey nautical charts; the National Oceanic and Atmospheric Administration (NOAA) Automatic Wreck and Obstruction Survey Database; the U.S. Coast Guard (USCG); the U.S. Navy Port Hueneme, Records of the Command Historian; and the City of Ventura Port District. This information was used in conjunction with geological and oceanographic information to generate expectations regarding the type of submerged cultural resources that may be present in the offshore survey area (the FSRU and the pipeline route to Ormond Beach).

No evidence of Chumash or Native American watercraft in the offshore environment has been documented in the Project area, and it is considered unlikely that evidence of such fragile craft would be preserved. The earliest shipwrecks documented are of European or American origin. The majority of historic shipwrecks reported in the Project or Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative area are associated with the Hueneme Pier and Ormond Beach landing (circa 1857 to 1938) and Ventura Pier and landing, at the foot of Kalorama Street (circa 1870 to 1929).

Shipwrecks in the vicinity of the Project and Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative are identified in Table 4.9-1. The table also lists shipwrecks not evaluated previously by the MMS. Only two of these additional vessels (*Kea* and *Congress*) are tentatively considered as moderately significant. There are no downed aircraft reported in the Project area. The Alaska Airlines Flight 261 crash site is more than 8.7 nautical miles (NM) (10 miles or 16.1 kilometers [km]) from any part of the Project.

Geophysical Survey

Fugro Pelagos conducted a geophysical survey along the 22.77-mile (36.64 km) proposed Project pipeline route and at the FSRU anchorage area (Hunter 2004). The remote sensing system's data reviewed by the marine archaeologist for this evaluation included multibeam echosounder acoustic backscatter (240 kilohertz [kHz] and 50 kHz) imagery, the 100 kHz sidescan sonar with a trailing cesium magnetometer, and subbottom profiles. The multibeam echosounder evaluated a 984-foot (300-meter [m]) swath centered on the pipeline route.

A review of the geophysical survey was conducted by a qualified marine archaeologist to identify features of possible cultural origin that might be impacted during construction

Table 4.9-1 Possible Shipwrecks off Ventura County and Vicinity Listed in State and Federal Databases

Name	Power	Built	Sunk	Cause	Length	Beam	Tons	Latitude	Longitude	Location
Aloha			1952					34º 09'00'N	119º 12'30'W	
Advance			1870	Wrecked			210	34º 16'20'N	119º 17'30'W	
Andrew D	Oil screw	1937	1953	Burned			116	33º 45'00'N	118º 50'00'W	
Arrow	Oil screw	1932	1954	Stranded			14			0.4 NM (0.46 mile or 0.74 km) W of Ventura River, Ventura
Caesar Burns	Schooner	1889						34º 08'00'N	119º 13'00'W	
California		1883						34º 09'12'N	119º 13'15'W	
Caroline E Foote		1871						34º 09'00'N	119º 12'30'W	Hueneme, California
Chris C	Oil screw	1927	1937	Foundered			60	34º 09'00'N	119º 12'30'W	
Cleopatra		1861								Southern California Coast
Congress		1919	1938	Stranded			42			Hueneme, California
Coos Bay	Steam screw	1884	1914	Wrecked			544	34º 14'00'N	119º 16'00'W	
Crimea	Brig		1876	Stranded				34º 16'20'N	119º 17'30'W	
Dina Lee		1917	1974	Foundered			13			4.3 NM (5 miles or 8 km) SW of Oxnard
Flying A	Oil screw	1932	1957							Off Ventura
Garey	Oil screw	1917	1969	Foundered			12			At Ventura Marina, Santa Clara River
Gualala	Schooner		1888	Stranded				34º 16'30'N	119º 17'30'W	
G Marconi	Oil screw	1928	1931	Burned			100	34º 20'00'N	120º 40'00'W	
Humanity			1939	Wrecked				34º 00'00'N	118º 48'00'W	
James Higgins			1916					34º 16'48'N	119º 16'48'W	
Kalorama	Steam schooner		1876					34º 16'25'N	119º 17'30'W	
Kea	Gas	1906	1920	Stranded			14			Hueneme, California
Kipco Star	Oil screw	1952	1963				60	34º 08'45'N	119º 12'00'W	
La Jenelle	Steam screw	1931	1970		466'	60'	7000	34º 08'40'N	119º 12'50'W	

Table 4.9-1 Possible Shipwrecks off Ventura County and Vicinity Listed in State and Federal Databases

Name	Power	Built	Sunk	Cause	Length	Beam	Tons	Latitude	Longitude	Location
Linde	Oil screw	1928	1951	Stranded			73	34º 09'00'N	119º 14'30'W	
Liverpool	British ship		1902	Enroute Antwerp for SF						Wrecked at Channel Islands
Lucy Ann	Brig		1875	Stranded				34º 16'24'N	119º 17'10'W	
Molly	Oil screw	1919	1969	Foundered						600 feet (183 m) S of S Jetty at the entrance to Channel Islands Harbor, Oxnard
Moonshiner	Oil screw	1969	1977	Foundered			17			S of Ventura Marina Bkwtr
Olympia	Drg.	1913	1973	Burned			642			Channel Islands Harbor, Oxnard
Pal	Oil screw	1926	1937	Wrecked			71	34º 13'22'N	119º 15'40'W	
Pan Pacific	Oil screw	1948	1950	Foundered			226			21.7 NM (25 miles or 40.2 km) offshore of Pt. Dume, at Pt. Mugu Firing Range
Portland	Barkentine	1873	1906				493	34º 09'00'N	119º 14'00'W	
R C Co #2	Scow	1931	1939	Stranded			402	34º 07'16'N	119º 09'48'W	
Saint Croix	Steamship	1895	1909	Burned	240'	40'	1993	34º 00'00'N	118º 45'00'W	
Saint Paul	Steam screw	1898	1905	Stranded			2440	34º 20'25'N	119º 26'07'W	
Scout		1914	1953	Stranded			14			2.2 NM (2.5 miles 4.1 km) S Port Hueneme Harbor entrance, broke up on beach
Sea Products #1	Barge	1912	1927	Foundered			57	33º 58'00'N	118º 48'00'W	Off Pt. Dume
Sierra	Oil screw	1917	1966	Foundered			23			About 0.2 NM (0.23 mile or 0.37 km) from Channel Islands Breakwater, Oxnard
Sitka			1934					34º 08'00'N	119º 13'00'W	
Sonoma	Oil screw	1914	1949	Foundered			196	34º 16'30'N	119º 17'30'W	
South Coast										Hueneme, California

Table 4.9-1 Possible Shipwrecks off Ventura County and Vicinity Listed in State and Federal Databases

Name	Power	Built	Sunk	Cause	Length	Beam	Tons	Latitude	Longitude	Location
Southland	Oil screw	1936	1960	Foundered			119			About 13 NM (15 miles or 24.1 km) off Anacapa Island
Spray	Fishing boat		1939	Capsized				34º 05'00'N	119º 03'35'W	
Stratus			1952							Off Pt. Hueneme
Tritonia	Br. steamer		1929	Exploded						Buenaventura
W.L. Hardison	Steamship		1889	Burned						Off Ventura
Yaquina	Screw	1881	1897	Wrecked				34º 09'00'N	119º 12'30'W	

Sources: CSLC 2003; U.S. Department of the Interior MMS 1987.

Note: Blank cells indicate unknown features.

or operation of the proposed Project. The review of the 2004 report for this document took into account the current literature and a search of databases for shipwrecks in the area.

Out of the 202 targets identified by the geophysical survey, one shipwreck and 45 unidentified features were selected as potential cultural resources on the seafloor. Twenty-three features (including the shipwreck) are in Federal waters, while the other 23 are within the 3-mile (4.8 km) State waters boundary. Within State waters, four are within 328 feet (100 m) of the proposed offshore pipeline route. Within Federal waters, 10 of the 23 locations are within 328 feet (100 m) of the proposed pipeline route. Therefore, a total of fourteen of these features occur within 328 feet (100 m) of the pipeline or anchoring area and are considered at risk for impacts.

The shipwreck identified in the geophysical survey is relatively recent and measures approximately 121 feet (36.9 m) long. Based on its appearance and likely steel hull, it may have been an Alaskan-style fish-processing boat, factory ship, or industrial workboat. The shipwreck is located more than 328 feet (100 m) from the proposed pipeline and is not considered at risk for impacts.

Twenty-six of the 46 targets (56 percent) are classified as "objects," which means they appear to be in one piece and not embedded in the seafloor. It is likely that some may be determined to be of human origin, while some will be found to be of natural origin. Of the potential human objects, a proportion will be modern jetsam while others may be more historically important. Most "objects" are small, usually less than 29.5 by 3.3 feet (9 by 1 m) and often 20 by 3.3 feet (6 by 1 m) or less.

Fifteen targets are characterized as "seafloor features." This classification means that the feature appears to be at least partially embedded in bottom sediment and is thus difficult to distinguish from a rock or sediment outcrop. They tend to have larger sizes than the objects.

Three targets are classified as “reflectors.” The possible identities of these targets are less discernable than those of the other categories.

Onshore

Records Search

An archival records search was first conducted for the Project on December 11, 2002, by the South Central Coastal Information Center (SCCIC), located at the California State University, Fullerton, Department of Anthropology, the regional repository for the California State Office of Historic Preservation. The Entrix Environmental Assessment (2004) documents a second records search of the proposed Project and Alternatives areas at the SCCIC conducted December 2, 2003. A third records search was conducted through the SCCIC in January 2005 (Entrix 2005). These searches included reviews of all recorded prehistoric and historic archaeological sites within 0.25 mile (0.4 km) of the Project and alternative areas. In addition, the listings in the California Historic Landmarks, the National Register of Historic Places, and the California State

Historic Resources Inventory for the Center Road Pipeline and Line 225 Pipeline Loop areas were reviewed. The record search showed that 75 to 80 percent of the Project area was previously surveyed. The majority of areas remaining unsurveyed for the Project are located along the alternatives, with a small portion of unsurveyed area within the Line 225 Pipeline Loop. A records search was also completed for the proposed and alternate routes in June 2004. SCCIC records within a one-half mile radius of the pipeline right-of-way (ROW) were searched, and the Southern California Historical Society and Ventura County lists of historic properties were also reviewed.

The records search revealed that a total of 22 prehistoric and/or historic archaeological sites or prehistoric isolates were identified within one-quarter mile (400 m) of the Center Road Pipeline, Line 225 Pipeline Loop areas, and their alternatives. One of the 22 recorded sites, a Victorian style cottage, is within the 200-foot (66 m) corridor (100 feet on either side of the pipeline) considered to be the Area of Potential Effect (APE) along the proposed Center Road Pipeline route.[1] In 1995, an evaluation of the cottage's eligibility for historic status was prepared (Entrix 2005). The Victorian style cottage was built for Herbert H. Eastwood about 1900. According to the evaluation, "Eastwood's local significance does not appear substantial or specific enough to qualify under Criterion B, and in any case, his greatest achievements came primarily after he had left this house."[2] The house also was not judged to be architecturally distinguished and therefore it was deemed ineligible for either the California Register of Historical Resources or the National Register of Historic Places under any of the criteria. In addition, the evaluation notes that it did not appear to be a contributing feature of an historic district or cultural landscape.

Another recorded historic site along the proposed Line 225 Pipeline Loop route is the Los Angeles Aqueduct, which is deeply buried and would not be affected by the Project. Ten more historic and archaeological sites are located along the various pipeline alternatives. Table 4.9-2 lists the resources within the APE for the proposed Project ROW and alternatives. Table 4.9-3 lists the recorded sites that are not within the APE but are within 0.25 mile (0.4 km) of the pipeline route and alternatives.

A record search request was submitted to the Native American Heritage Commission (NAHC) in Sacramento, California, to obtain pertinent information regarding prehistoric, historic, and/or ethnographic land use and sites of Native American traditional or cultural value that might be known to exist within the Project areas, as depicted in the Sacred Lands database or other files under NAHC jurisdiction. The NAHC record search did not reveal any Native American sites in the Project vicinity.

[1] Under Federal law, the Area of Potential Effect (APE) is the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if any such properties exist.

[2] The National Register Criteria for Evaluation defines Criterion B as a property associated with the lives of persons significant in the past.

Table 4.9-2 Cultural Resource Locations and Field Validation of Sites within the 200-foot Project Right-of-Way

Site Number	Approximate Pipeline Milepost (MP)	Description	Documented Status	Field-Verified Status
Center Road Pipeline Route				
P-56-150028	MP 2.5	Victorian style cottage	A 1995 evaluation of the property found that the house is not architecturally distinguished and the property does not appear to be eligible for listing on the California or National Registers. Eastwood's local significance does not appear substantial or specific enough to qualify his house for eligibility under Criterion B (associated with the lives of persons of significance in the past).	Remains occupied and maintained
CA-VEN-665	Alternative 1 MP 4.9	Three concentrations of artifacts and shell	Site disturbance is described as extreme.	Unable to locate site. Road widening and development may have removed any surface evidence. Intact deposit may remain beneath road surface.
CA-VEN-666	Alternative 1 MP 5.6	Low density artifact and shell scatter	Not known.	Unable to locate site. Trace of shell present in drainage. Problematic site may be the result of road construction fill material.
CA-VEN-726/H	Alternative 1 MP 3.3	Lithic material and historic debris in a highly disturbed area of fill may have been brought in with fill material.	The site record reports that the artifacts may have been imported along with road fill material.	Unable to locate site. Road widening and development may have removed any surface evidence. Intact deposit may remain beneath road surface.
CA-VEN-918	Alternative 1 MP 5.5	Low-density shell scatter	The site is located within 200 m of site CA-VEN-666 and may represent a continuation of the shell scatter.	Unable to locate site. Trace of shell present in drainage. Problematic site may be the result of road construction fill material.
P-56-150013	Alternative 1 MP 2.7	Japanese Cemetery	A chain link fence surrounds the cemetery. Graves in the cemetery are marked from 1908 to 1960.	The cemetery is intact, fenced, and well maintained.

Table 4.9-2 Cultural Resource Locations and Field Validation of Sites within the 200-foot Project Right-of-Way

Site Number	Approximate Pipeline Milepost (MP)	Description	Documented Status	Field-Verified Status
P-56-150014	Alternative 1 MP 2.8	Hueneme Masonic Cemetery	The cemetery was incorporated in 1898 and contains graves of Masonic Association members, including prominent local families of the time. The cemetery is bordered by the Naumann Giant Gum Tree and Eucalyptus Grove (P-56-150023).	The cemetery is intact but not maintained.
P-56-150022	Alternative 1 MP 2.8	Quonset Hut	The building appears to be extensively modified, but no dates are documented.	The structure has been removed.
P-56-150023	Alternative 1 MP 3.0	Blue Gum Tree Grove (Ventura County Landmark since 1971)	A number of large trees have been lost after designation was granted.	The grove is present.
P-56-120002	Alternative 1 MP 4.2	Shell scatter recorded in 1979.	Probably destroyed.	Unable to locate site. Road widening and development may have removed any surface evidence. Intact deposit may remain beneath the road surface.
P-56-10060	Alternative 1 MP 3.2	Isolate (mano) recorded in 1979.	Not known.	Not found. No other artifacts were located.
Line 225 Loop Pipeline Route				
CA-LAN-2105	MP 0.0	Los Angeles Aqueduct	The aqueduct is deeply buried at the point where it intersects the proposed pipeline.	The aqueduct is deeply buried at the point where it intersects the proposed pipeline.

Table 4.9-3 Cultural Resource Locations Outside the 200-Foot Project Right-of-Way

Site Number	Approximate Milepost (MP)	Description	Documented Status
Arnold Road Shore Crossing			
CA-VEN-555 A and B	MP 0.0	Shell scatter	A shoreline site consisting of two distinct light shell scatters. Impacts on the site are considered significant due to off-road vehicular traffic. Subsequent surveys were unable to relocate the site.
Center Road Pipeline Route and Alternatives			
CA-VEN-13	MP 7.5	Lithic scatter	No finished artifacts were located and the site was considered questionable during recording.
CA-VEN-506	Alternative 1 MP 5.5	Lithic scatter and burials	The site was initially unearthed within a lemon orchard by workmen. A newspaper clipping, dated April 5, 1977, reports that a “half dozen skulls and other fragmentary remains were uncovered along with a stone bowl, pestles, and other artifacts.
P-56-150018	Alternative 1 MP 4.6	Wood frame residence	Standing structure.
P-56-150020	Alternative 1 MP 4.2	Built environment with standing structures	The home, known as the Richard Pidduck House, is a rare example of an area farmhouse built in this particular style. The house is a good example of the work of architect Alfred Priest, a minor regional architect known for his commercial and public buildings. A historical evaluation of the house completed in 1995 found that the structure did not appear to possess the potential for eligibility for the California or the National Registers.
P-56-150021	Alternative 1 MP 3.8	Built environment with standing structures	An evaluation in 1995 found that the property did not appear to possess the potential for eligibility for the California or National Registers.
P-56-150024	Alternative 1 MP 3.0	Farm Complex	The property is the home of the Naumann family and is directly adjacent to the Hueneme Masonic Cemetery. The home appears to be in good condition. A 1995 evaluation found that the property did not appear to possess the potential for eligibility to the California or National registers.
P-56-100059	Alternative 2 MP 7.0	Isolated lithic tool	Not known.
Line 225 Loop Pipeline Route and Alternative			
CA-LAN-2190H	MP 5.5	1898 railroad bridge across the Santa Clara River	The date 1898 is etched on the bridge. The northern cement foundation has 192(?) marking.
CA-LAN-823	MP 6.3	Possible village site, burials, beads, and artifacts	Accurate location of the site is unclear, and intact portions may have been destroyed by construction.

Native American Consultations

A subsequent request for identification of Ventureno Chumash members in the Project area was submitted to the NAHC in May 2004. NAHC compiled a list of contacts for Chumash members in the area.

A letter was sent to the Native Americans identified on the NAHC list describing the Project and its location. This letter solicited Native American concerns and recommendations regarding the proposed Project and requested information to assist in identifying areas of importance to Native Americans along the proposed Project route. Letters were then followed up by a telephone call as no written responses were received. Responses varied but those that did respond by telephone all expressed concern about areas adjacent to active creeks or barrancas (streams and washes), agricultural areas, dune areas, and possible but as yet unidentified burial locations. Concerns were also expressed concerning the FSRU location and Santa Monica Mountain preserve. These contacts and consultations with Native Americans in the Project area fulfills the requirements of the Federal lead agency under Section 106 of the National Historic Preservation Act.

Based on these consultations, all archaeological sites in the Project area are considered significant to Native Americans. Ethnohistoric villages, sites with human remains, and sites with extensive deposits were viewed as particularly important. Collection sites for acorns, grasses to make baskets, and herbs were also of significance. One person expressed a concern for remains of sites that had been destroyed prior to environmental legislation in the Project area. The person stated that although disturbed, the sites should be located during trenching. One person expressed concerns about the location of artifact curation. In addition, all persons consulted expressed an interest in accompanying archaeologists during surveying and construction monitoring.

Field Survey

A field survey was conducted during May 2005 to validate earlier studies and identify new sites, if any. A 200-foot (66 m) corridor was surveyed along the pipeline route and proposed alternatives except for about 30 percent of the routes where infrastructure and development prevented access. The areas not surveyed are characterized as buildings, landscaping, pavement, or fenced agricultural land. Many of these areas have been surveyed in the past prior to development. Therefore, the likelihood of encountering intact cultural material in these areas was determined by field archaeologists to be extremely low. The survey corridor was expanded beyond the proposed ROW to encompass potential routing changes and alternative routing options.

The archaeologists conducted the pedestrian survey by walking parallel transects of 30 to 60 feet (10 to 20 m) to identify resources visible above ground. All visible ground within the 200-foot (66 m) corridor or APE was inspected for cultural remains. Cut banks, bedrock outcrops, boulders, and exposed sediments were examined. Previously recorded sites were revisited and site records updated. Several previously recorded

sites were not relocated during the survey, which was expected, considering the amount of modern development and agricultural activity in the Project area. Table 4.9-2 above presents the updated status of each recorded site identified during the literature review. No previously unrecorded cultural resources were located during the survey.

4.9.2 Regulatory Setting

Major Federal, State, and local laws and regulations relating to cultural resources are identified in Table 4.9-4.

Table 4.9-4 Major Laws, Regulatory Requirements, and Plans for Cultural Resources

Law/Regulation/Plan/ Agency	Key Elements and Thresholds; Applicable Permits
Federal	
Archaeological and Historic Preservation Act of 1974	• Specifically provides for the preservation of historical and archaeological data that might be irreparably lost or destroyed as a result of (1) flooding, the building of access roads, the erection of workmen's communities, the relocation of railroads and highways, and other alterations of terrain caused by the construction of a dam by an agency of the United States or by any private person or corporation holding a license issued by any such agency; or (2) any alteration of the terrain caused as a result of an Federal construction project or federally licensed project, activity, or program. • Requires Federal agencies to notify the Secretary of the Interior when they find that any federally permitted activity or program may cause irreparable loss or destruction of significant scientific, prehistoric, historical, or archaeological data.
Archaeological Resource Protection Act of 1979	• States that archaeological resources on public or Indian lands are an accessible and irreplaceable part of the nation's heritage and provides for the following: - Establishes protection for archaeological resources to prevent loss and destruction due to uncontrolled excavations and pillaging; - Encourages increased cooperation and exchange of information between government authorities, the professional archaeological community, and private individuals having collections of archaeological resources prior to the enactment of this Act; and - Establishes permit procedures to permit excavation or removal of archaeological resources (and associated activities) located on public or Indian land. • Defines excavation, removal, damage, or other alteration or defacing of archaeological resources as a "prohibited act" and provides for criminal and monetary rewards to be paid to individuals furnishing information leading to the finding of a civil violation or conviction of a criminal violator.
National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S. Code § 470)	• Presents a general policy of supporting and encouraging the preservation of prehistoric and historic resources for present and future generations by directing Federal agencies to assume responsibility for considering the historic resources in their activities. It ensures the accomplishment of its policies and mandates by: - Authorizing the Secretary of the Interior to establish and maintain a National Registry of Historic Places; - Directing the Secretary of the Interior to approve State preservation programs and designate State Historic Preservation Officers to administer State preservation efforts; - Authorizing a grant program for states for historic preservation projects and

Table 4.9-4 Major Laws, Regulatory Requirements, and Plans for Cultural Resources

Law/Regulation/Plan/ Agency	Key Elements and Thresholds; Applicable Permits
	individuals for the preservation of listed National Register Properties; - Establishing the Advisory Council on Historic Preservation (ACHP) as an independent Federal agency; - Establishing procedures that Federal agencies must follow in managing federally owned or controlled property and requiring consultation with the ACHP prior to the approval of any undertaking that may harm historic properties; - Under Section 106 of the NHPA, requiring Federal agencies to take into account the effects of their undertakings on historic properties and affording the ACHP a reasonable opportunity to comment; and - Establishing the National Historic Preservation Fund.
National Environmental Policy Act, as amended	• States that it is the continuing responsibility of the Federal government to use all practicable means to preserve important historic, cultural, and natural aspects of national heritage when implementing Federal programs, policies, and decisions (§ 101(b)). • Requires compliance with all other applicable Federal laws and statutes.
U.S. Coast Guard (33 Code of Federal Regulations Parts 148, 149, and 150)	• Defines reconnaissance hydrographic survey as a scientific study of fresh and salt-water bodies, currents and water content, cultural resources, and seabed soils. An analysis of the information from the reconnaissance hydrographic survey by a qualified underwater archaeologist is required to determine the historical or other significance of the area where the site evaluation and pre-construction testing activities were conducted. This analysis must meet standards established by the MMS for activities on the outer continental shelf and include the areas potentially affected by the deepwater port, other associated platforms, and its pipeline routes.
The Native American Graves Protection and Repatriation Act of 1990	• Provides a process for museums and Federal agencies to return certain Native American cultural items—human remains, funerary objects, sacred objects, and objects of cultural patrimony—to lineal descendants and culturally affiliated Indian tribes.
American Indian Religious Freedom Act (42 United States Code [U.S.C.] § 1996, et seq.)	• Protects and preserves American Indians' inherent right of freedom to believe, express, and exercise their traditional religions, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonial and traditional rites.
Antiquities Act (16 U.S.C. §§ 431-433)	• Authorizes the President of the U.S. to declare historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest. • Grants permits for the examination of ruins, the excavation of archaeological sites, and the gathering of objects of antiquity to qualified individuals. • Sets penalties for damage or destruction of antiquities on Federal land.
Consultation and Coordination with Indian Tribal Governments (Executive Order [E.O.] 13175, 65 Federal Register [FR] 67249)	• Recognizes the right of Indian tribes to self-government and addresses issues concerning Indian tribal self-government, tribal trust resources, and Indian tribal treaty and other rights. • Requires Federal agencies to have an accountable process to ensure tribal input in the development of regulatory policies that have tribal implications.

Table 4.9-4 Major Laws, Regulatory Requirements, and Plans for Cultural Resources

Law/Regulation/Plan/ Agency	Key Elements and Thresholds; Applicable Permits
Historic Sites Act (16 U.S.C. § 46 et seq.)	• Establishes a national policy to preserve historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the U.S. • Authorizes the Secretary of the Interior to make a survey of historic and archeological sites, buildings, and objects for the purpose of determining which possess exceptional value in commemorating or illustrating the history of the U.S.
Indian Sacred Sites (E.O. 13007, 61 FR 26771)	• Authorizes each executive branch agency with statutory or administrative responsibility for the management of Federal lands to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoid adversely affecting the physical integrity of such sacred sites.
Protection and Enhancement of Cultural Environment (E.O. 11593, 36 FR 8921)	• Mandates Federal agencies to evaluate and survey Federal historic properties and, where appropriate, to nominate such properties for listing on the National Register of Historic Places.
State	
California Environmental Quality Act (CEQA)	• Defines "historical resources" (includes eligible archaeological resources) and notes that a lead agency may determine a resource to be a "historical resource" even if not listed on any register. • Provides guidelines for treatment of historical resources, including archaeological resources that may be adversely affected by Project development. A mitigation plan must be developed for the resource(s). The preferred method of mitigating impacts on archaeological resources is preservation in place.
California Register of Historical Resources	• Provides an authoritative guide to identify the State's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change.
California Public Resources Code § 5097.9	• Stipulates that it is contrary to the free expression and exercise of Native American religion to interfere with or cause severe irreparable damage to any Native American cemetery, place of worship, religious or ceremonial site, or sacred shrine on certain public property.
California Coastal Act Chapter 3 Article 5 § 30244	• States that reasonable mitigation measures shall be required where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer.
State Health and Safety Code § 7050.5 *- County Coroner, Native American Heritage Commission*	• Requires that if human remains are exposed during construction, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code § 5097.98. The Coroner has 24 hours to notify the NAHC if the remains are determined to be of Native American descent. The NAHC will then contact the most likely descendant of the deceased, who may recommend how to proceed with the remains.
Local	
Ventura County General Plan	• Establishes policy for protection of cultural resources under its jurisdiction.
Los Angeles County General Plan	• Establishes policy for protection of cultural resources under its jurisdiction.

4.9.3 Significance Criteria

Cultural resource impacts are considered significant if the Project construction or operation results in any of the following adverse effects.

- Violates Federal, State, or local agency cultural resource standards or objectives;
- Causes a substantial adverse change in the significance of an archaeological resource, such as demolition or material alteration of the resource itself or its immediate surroundings;
- Causes a substantial adverse change in the significance of an historical resource as defined on the Federal level by its eligibility for listing on the National Register of Historic Places and on the State level by its eligibility for listing on the California Register of Historical Resources, inclusion in a local register of historical resources, or by determination of the lead agency that the resource is "historically significant";
- Violate cultural resource standards by impacting resources that are of value to Native American culture and heritage; or
- Disturbs any human remains, including those interred outside of formal cemeteries.

4.9.4 Impact Analysis and Mitigation

Applicant-proposed measures (AM) and agency recommended mitigation measures (MM) are defined in Section 4.1.5, "Applicant Measures and Mitigation Measures."

4.9.4.1 Offshore

Impact CULT-1: Marine Archaeological Sites and Artifacts

The Project could violate cultural resource standards or cause an adverse change in archaeologically significant resources in offshore Project areas (Class III).

FSRU installation, offshore pipeline construction, and ship anchoring could alter, disturb, or destroy historic or archaeological resources located on the seafloor or within seafloor sediments. Fourteen potential cultural resources occur within 328 feet (100 m) of the pipeline and 984 feet (300 m) of the FSRU anchoring array and are considered at potential risk for impacts. Although potential cultural objects on the seafloor have been avoided in route selection, a verification survey focused on the potential objects of human origin would ensure that all archaeological resources have been adequately located so that they can be avoided.

It is not anticipated that impacts above significance criteria levels would result from the proposed Project with the incorporation of AM CULT-1a. The Applicant has agreed to perform an additional verification survey to confirm that none of the objects on the seafloor are significant cultural resources. If the survey finds that any are significant cultural resources, the Applicant has agreed to avoid impacts on those resources.

Therefore, the Project would not result in a violation of cultural resources standards or objectives nor would it result in a change to the status of a cultural resource that would be above its significance criteria.

The Applicant has incorporated the following measure into the proposed Project:

AM CULT-1a. Marine Archaeological Surveys. Additional marine archaeological surveys would be performed to confirm the location of and gather further information on the submerged objects determined to be subject to potential impact from the Project. Shipwrecks or other underwater cultural resources identified as culturally significant would be avoided. Pipelaying barges would use dynamic positioning rather than anchoring at locations along the route to avoid impacts on potential cultural resources.

Implementation of marine archaeological surveys would help identify any significant marine archaeological resources in the offshore Project area; if found, the Applicant has agreed to avoid those resources.

4.9.4.2 Onshore/Offshore

Impact CULT-2: Native American Values

The Project could violate cultural resource standards by impacting resources that are of value to Native American culture and heritage, particularly descendents of the Ventura Chumash (Class III).

The NAHC record search did not reveal any Native American sites in the Project vicinity. However, during consultations with Ventura Chumash descendants regarding their perception of specific ethnic impacts, concerns were expressed over Project impacts on undocumented sites and artifacts in the Project area. During Project construction a previously unidentified site could be encountered and damaged. The Applicant would have an Unanticipated Discoveries Plan in place during Project construction. Such plans are standardly used throughout the U.S. to ensure that contractors clearly understand the laws and regulations that address unanticipated cultural resources discoveries during construction. The plan would also detail the immediate actions and notifications that must be made if a discovery is made.

The importance of the viewshed from the Santa Monica Mountains National Recreation Area was raised during Native American consultations. Section 4.4, “Aesthetics,” discusses the visual impacts of the Project and, specifically, the visibility of the FSRU.

With the implementation of the Unanticipated Discoveries Plan and the other measures listed in AM CULT-2b below, the potential impacts on Native American values would be reduced to a level below significance criteria.

The Applicant has incorporated the following measures into the Project:

AM CULT-2a. **Site Avoidance**. The Applicant would avoid identified sites to the maximum feasible extent and adhere to State of California burial remains legislation and the Native American Graves Protection and Repatriation Act as applicable.

AM CULT-2b. **Native American Values.** The Applicant would incorporate the following measures to avoid impacts on Native American values:

- Native American monitoring would be included in Project-related activities that result in disturbance of surface and subsurface components of archaeological sites;
- Artifacts recovered from archaeological sites would be curated at a qualified museum or historical facility that allows access to Native Americans;
- Procedures specified in the State CEQA Guidelines 15064.5(e) and Health and Safety Code § 7050.5 and Public Resources Code § 5097.98 would be implemented if human remains are discovered in the Project area; and
- Significant oak trees and other plants and animals of local Native American concern would be avoided to the extent possible, and impacts to native plants would be minimized by allowing collection of herbs before construction and by relocating and replanting grasses. If such resources are unavoidable during Project construction or maintenance, further investigations in the form of complete documentation would be implemented. All such investigations would include Native American participation where mandated by Federal, State, and local law.

AM CULT-1a. **Marine Archeological Surveys** applies here.

AM CULT-3a. **Archaeological Monitoring** applies here.

AM CULT-3b. **Unanticipated Discovery Plan** applies here.

AM CULT-3c. **Pre-Construction Pedestrian Survey** applies here (onshore only).

Implementation of these measures would ensure that Native American values are respected, and that treatment of unanticipated cultural resources found during construction and impacts to Native American values would remain at a level below significance criteria.

4.9.4.3 Onshore

Impact CULT-3: Terrestrial Historic or Archaeological Resources

The Project could violate cultural resource standards, cause an adverse change in the significance of a historic or archaeological resource, or disturb human remains in onshore Project areas (Class III).

Based on the location of documented sites, the Project would not result in adverse impacts to documented prehistoric and historic site locations; however, Project activities may result in adverse impacts to archaeological resources not yet documented. Ground-disturbing activities, including trench excavation, pre-construction ditching, grading, horizontal directional boring (HDB), and horizontal directional drilling (HDD), all have the potential to impact cultural resources. Areas sensitive for surface disturbance include parking and equipment staging areas and access easements.

No impacts are expected to occur during maintenance and operations. Activities associated with pipeline abandonment that could potentially affect cultural resources would include removal of facilities, regrading, refilling, and revegetation.

Direct and indirect impacts on unrecorded, unanticipated cultural resources could nonetheless occur. The shoreline in the Project area probably provided an attractive seasonal subsistence resource for early inhabitants, and the historically high water table in the past suggests that many springs probably occurred throughout the area in prehistoric times (Thomas et al. 1956). The areas adjacent to these water bodies and near springs are evaluated as having a high probability for the occurrence of prehistoric sites and artifacts; thus the shoreline crossing at Ormond Beach may be an area of cultural resource sensitivity even though no evidence of cultural resources were observed along the proposed ROW during the pedestrian survey.

Other areas of potential sensitivity include those northward of Beardsley Wash, as they are characterized by numerous relic barrancas, which historically crossed through the Project, and alternative pipeline alignments. Many have now disappeared. Rose Avenue (or Ditch Road) and areas adjacent to Beardsley wash have both shown evidence of buried prehistoric sites with burials and/or artifacts.

The Applicant has incorporated the following measure into the Project:

AM CULT-3a. Archaeological Monitoring. A qualified archaeologist would monitor all construction within 328 feet (100 m) of archaeological sites and areas with high potential for the occurrence of sites buried under alluvium including the shoreline crossing. If sites are identified during the monitoring phase of construction, the archaeologist would be empowered to stop all construction activities in the vicinity of the find and evaluate the resource. Such evaluation would require a Phase 2 subsurface testing and evaluation program. If remains prove to be significant and site avoidance cannot be implemented through Project redesign, a

Phase 3 data recovery program would be implemented to mitigate impacts.

AM CULT-3b. Unanticipated Discoveries Plan. To ensure compliance with mitigation measures, a cultural resources management plan has been developed pursuant to all relevant Federal, State, and local cultural resources guidelines and criteria, including NEPA § 101(b), and CEQA Guidelines §§ 15064.5(e) and (f). The plan includes an overview of the regulations that apply in the event of an unanticipated discovery, and identifies specific steps to be undertaken for treatment or discovery of remains. The plan covers:

- Authority to halt construction;
- Procedures when skeletal remains are found;
- Protection while awaiting recommendations from most likely descendants;
- Treatment as recommended by most likely descendents;
- Reporting; and
- Curation of archaeological material not associated with human remains.

AM CULT-3c. Pre-Construction Pedestrian Survey. The Applicant would employ a qualified archaeologist to conduct a pre-construction pedestrian survey over any segments of the route that have not already been surveyed. If unanticipated surface evidence of an archaeological site is observed, impacts to the site would be avoided.

Monitoring of construction, implementation of an Unanticipated Discoveries Plan, and a pre-construction pedestrian survey by a qualified archaeologist would reduce potential impacts to onshore archaeological and historical resources, including the violation of cultural resource standards, adverse changes in cultural impacts, or disturbance of human remains, below the level of significance criteria.

Impacts and mitigation measures associated with cultural resources are summarized in Table 4.9-5.

Table 4.9-5 Summary of Cultural Resource Impacts and Mitigation Measures

Impact	Mitigation Measure(s)
Impact CULT-1. The Project could violate cultural resource standards or cause an adverse change in archaeologically significant resources in offshore Project areas (Class III).	**AM CULT-1a. Marine Archaeological Surveys**. Additional marine archaeological surveys would be performed to confirm the location of and gather further information on the submerged objects determined to be subject to potential impact from the Project. Shipwrecks or other underwater cultural resources identified as culturally significant would be avoided. Pipelaying barges would use dynamic positioning

Table 4.9-5 Summary of Cultural Resource Impacts and Mitigation Measures

Impact	Mitigation Measure(s)
	rather than anchoring at locations along the route to avoid impacts on potential cultural resources.
I**mpact CULT-2.** The Project could violate cultural resource standards by impacting resources that are of value to Native American culture and heritage, particularly descendents of the Ventura Chumash (Class III).	**AM CULT-2a. Site Avoidance.** The Applicant would avoid identified sites to the maximum feasible extent and adhere to State of California burial remains legislation and the Native American Graves Protection and Repatriation Act as applicable. **AM CULT-2b. Native American Values.** The Applicant would incorporate the following measures to avoid impacts on Native American values: • Native American monitoring would be included in Project-related activities that result in disturbance of surface and subsurface components of archaeological sites; • Artifacts recovered from archaeological sites would be curated at a qualified museum or historical facility that allows access to Native Americans; • Procedures specified in CEQA Guidelines 15064.5(e) and Health and Safety Code § 7050.5 and Public Resources Code § 5097.98 would be implemented if human remains are discovered in the Project area; and • Significant oak trees and other plants and animals of local Native American concern would be avoided to the extent feasible, and impacts to native plants would be minimized by allowing collection of herbs before construction and by relocating and replanting grasses. If such resources are unavoidable during Project construction or maintenance, further investigations in the form of complete documentation would be implemented. All such investigations would include Native American participation where mandated by Federal, State, and local law. **AM CULT-1a. Marine Archeological Surveys.** **AM CULT-3a. Archaeological Monitoring.** **AM CULT-3b. Unanticipated Discovery Plan.** **AM CULT-3c. Pre-Construction Pedestrian Survey.**
Impact CULT-3. The Project could violate cultural resource standards, cause an adverse change in the significance of an historic or archaeological resource, or disturb human remains in onshore Project areas (Class III).	**AM CULT-3a. Archaeological Monitoring.** A qualified archaeologist would monitor all construction within 328 feet (100 m) of archaeological sites and areas with high potential for the occurrence of sites buried under alluvium, including the shoreline crossing. If sites are identified during the monitoring phase of construction, the archaeologist would be empowered to stop all construction activities in the vicinity of the find and evaluate the resource. Such evaluation would require a Phase 2 subsurface testing and evaluation program. If remains prove to be significant and site avoidance cannot be implemented through Project redesign, a Phase 3 data recovery program would be implemented to mitigate impacts. **AM CULT-3b. Unanticipated Discoveries Plan.** To ensure compliance with mitigation measures, a cultural resources management plan has been developed pursuant to all relevant Federal, State, and local cultural resources guidelines and

Table 4.9-5 Summary of Cultural Resource Impacts and Mitigation Measures

Impact	Mitigation Measure(s)
	criteria, including CEQA Guidelines §§ 15064.5(e) and (f). The plan includes an overview of the regulations that apply in the event of an unanticipated discovery, and identifies specific steps to be undertaken for treatment or discovery of remains. The plan covers: • Authority to halt construction; • Procedures when skeletal remains are found; • Protection while awaiting recommendations from most likely descendants; • Treatment as recommended by most likely descendents; • Reporting; and • Curation of archaeological material not associated with human remains. **AM CULT-3c. Pre-Construction Pedestrian Survey.** The Applicant would employ a qualified archaeologist to conduct a pre-construction pedestrian survey over any segments of the route that have not already been surveyed. If unanticipated surface evidence of an archaeological site is observed, impacts on the site would be avoided.

4.9.5 Alternatives

4.9.5.1 No Action Alternative

As explained in greater detail in Section 3.4.1, “No Action Alternative,” under the No Action Alternative, MARAD would deny the license for the Cabrillo Port Project and/or the CSLC would deny the application for the proposed lease of State tide and submerged lands for a pipeline ROW. The No Action Alternative means that the Project would not go forward and the FSRU, associated subsea pipelines, and onshore pipelines and related facilities would not be installed. Accordingly, none of the potential environmental impacts identified for the construction and operation of the proposed Project would occur.

Since the proposed Project is privately funded, it is unknown whether the Applicant would fund another energy project in California; however, should the No Action Alternative be selected, the energy needs identified in Section 1.2, "Project Purpose, Need and Objectives," would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such proposed projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, such impacts cannot be predicted with any certainty at this time.

4.9.5.2 Alternative Deepwater Port (DWP) – Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline

This alternative would result in impacts similar to the proposed Project. A cultural resources survey along the pipeline route did not identify documented cultural resources that could be impacted (Entrix 2005). The landfall in this alternative would be at the Reliant Energy Mandalay Generating Station, whose cultural setting is comparable to that of the Reliant Energy Ormond Beach Generating Station. No historic structures or structures eligible for registry are within 1 mile (1.6 km) of the site.

4.9.5.3 Alternative Onshore Pipeline Routes

Center Road Pipeline Alternative 1

Six recorded archaeological sites are located within the APE for this alternative. In addition, four potentially historic resources are located along this alternative. Excavation and grading could adversely affect the archaeological sites. However, with implementation of recorded site monitoring and the Unanticipated Discoveries Plan, the archaeological impacts of this alternative would be reduced to less than significant. The route would be located in existing ROWs near the potentially historic resources and no significant impacts to those resources would be expected. However, due to the location of more recorded sites along this alternative, it would have more potential impacts to cultural resources than the proposed Project.

Center Road Pipeline Alternative 2

The potential impacts on cultural resources under this alternative would be similar to those of the proposed Center Road Pipeline route. No recorded historic or archaeological sites were identified within the APE for this alternative. Consequently, similar to the proposed Project, this alternative would not be expected to create an adverse impact on cultural resources.

Center Road Pipeline Alternative 3

This alternative follows the same route as the proposed Project, except for the final approximate two miles. Historical and archaeological impacts along this route are anticipated to be the same as the proposed Project; therefore, Applicant and mitigation measures would be the same.

Line 225 Pipeline Loop Alternative

The potential impacts on cultural resources would be similar to those of the proposed route. The area to be surveyed along the Line 225 Pipeline Loop Alternative prior to issuance of permits includes a 328-foot (100 m) swath along both sides of the Santa Clara River.

An alternative to Line 225 Pipeline Loop would use HDD to cross the Santa Clara River instead of attaching the pipeline to bridges. No historic sites have been recorded in this

area; however, due to the archaeological sensitivity of areas near rivers, the HDD river crossing alternative has a greater potential for significant archaeological impacts than attaching the pipeline to the bridge; however, implementation of AM CULT-3a, 3b, and 3c would reduce potential cultural resource impacts to a level below the significance criteria.

4.9.5.4 Alternative Shore Crossings and Pipeline Connection Routes

Point Mugu Shore Crossing/Casper Road Pipeline

An archival search of information on cultural resources maintained by the California Historical Resources Information System at California State University, Fullerton, was performed. The results of the archival search revealed that there are no documented archaeological sites located on the pipeline route within the APE. Two archaeological sites (56-000555A and 56-000555B) were identified within a 0.25 mile (0.4 km) radius of the Project site. One isolate was also identified within 0.25 mile (0.4 km) of the Project site (56-100156) although no isolates were identified along the pipeline route.

The same measures associated with the proposed Project would be applicable to this alternative. Implementation of these measures would reduce potential adverse impacts to cultural resources below the level of significance criteria.

Arnold Road Shore Crossing/Arnold Road Pipeline

This alternative is adjacent to the Point Mugu Shore Crossing and the results of the cultural resources archival search were the same as the proposed Project, and the same measures associated with the proposed Project would be applicable to this alternative. Implementation of these measures would reduce potential adverse impacts to cultural resources below the level of significance criteria.

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